



**UNITED STATES DEPARTMENT OF COMMERCE  
Patent and Trademark Office**

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10

APPLICATION NO.	FILING DATE	FIRST NAMED INVENTOR	ATTORNEY DOCKET NO.
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08/959,575 10/28/97 CARLSON

R 1505/5A

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LM02/0708

EXAMINER

MEISLAHN, D

ART UNIT

PAPER NUMBER

2767

DATE MAILED:

07/08/99

5

**Please find below and/or attached an Office communication concerning this application or proceeding.**

**Commissioner of Patents and Trademarks**

# Office Action Summary

Application No.

08/959,575

Applicant(s)

Carlson

Examiner

Douglas Meislahn

Group Art Unit

2767

☒ Responsive to communication(s) filed on Apr 29, 1999

☐ This action is **FINAL**.

☐ Since this application is in condition for allowance except for formal matters, prosecution as to the merits is closed in accordance with the practice under *Ex parte Quayle*, 1935 C.D. 11; 453 O.G. 213.

A shortened statutory period for response to this action is set to expire 3 month(s), or thirty days, whichever is longer, from the mailing date of this communication. Failure to respond within the period for response will cause the application to become abandoned. (35 U.S.C. § 133). Extensions of time may be obtained under the provisions of 37 CFR 1.136(a).

## Disposition of Claims

☒ Claim(s) 17-22 and 29-43 is/are pending in the application.

Of the above, claim(s) \_\_\_\_\_ is/are withdrawn from consideration.

☐ Claim(s) \_\_\_\_\_ is/are allowed.

☒ Claim(s) 17-22 and 29-43 is/are rejected.

☐ Claim(s) \_\_\_\_\_ is/are objected to.

☐ Claims \_\_\_\_\_ are subject to restriction or election requirement.

## Application Papers

☒ See the attached Notice of Draftsperson's Patent Drawing Review, PTO-948.

☐ The drawing(s) filed on \_\_\_\_\_ is/are objected to by the Examiner.

☐ The proposed drawing correction, filed on \_\_\_\_\_ is ☐ approved ☐ disapproved.

☒ The specification is objected to by the Examiner.

☐ The oath or declaration is objected to by the Examiner.

## Priority under 35 U.S.C. § 119

☐ Acknowledgement is made of a claim for foreign priority under 35 U.S.C. § 119(a)-(d).

☐ All ☐ Some\* ☐ None of the CERTIFIED copies of the priority documents have been

☐ received.

☐ received in Application No. (Series Code/Serial Number) \_\_\_\_\_

☐ received in this national stage application from the International Bureau (PCT Rule 17.2(a)).

\*Certified copies not received: \_\_\_\_\_

☒ Acknowledgement is made of a claim for domestic priority under 35 U.S.C. § 119(e).

## Attachment(s)

☒ Notice of References Cited, PTO-892

☒ Information Disclosure Statement(s), PTO-1449, Paper No(s). 3

☐ Interview Summary, PTO-413

☒ Notice of Draftsperson's Patent Drawing Review, PTO-948

☐ Notice of Informal Patent Application, PTO-152

--- SEE OFFICE ACTION ON THE FOLLOWING PAGES ---

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## DETAILED ACTION

### *Specification*

1. The title of the invention is not descriptive. A new title is required that is clearly indicative of the invention to which the claims are directed.

### *Claim Rejections - 35 USC § 102*

2. The following is a quotation of the appropriate paragraphs of 35 U.S.C. 102 that form the basis for the rejections under this section made in this Office action:

A person shall be entitled to a patent unless --

(b) the invention was patented or described in a printed publication in this or a foreign country or in public use or on sale in this country, more than one year prior to the date of application for patent in the United States.

3. Claims 17, 30, 33, 34, and 43 are rejected under 35 U.S.C. 102(b) as being anticipated by Vasseur (3309509).

Vasseur's invention, a system for checking the random characteristics of sequences of N symbols, clearly anticipates the verifier of applicant's invention. Figure 2 shows the operation of a key generator which, like the at least one random number circuit of the present invention, produces random numbers. Although not expressly stated in Vasseur, the storage and controlled distribution of keys is inherent to key generation, and this corresponds to applicant's controller that stores the pseudo-random numbers.

In figure 2, element c is a decoder, which can be used in an encryption circuit.

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*Claim Rejections - 35 USC § 103*

4. The following is a quotation of 35 U.S.C. 103(a) which forms the basis for all obviousness rejections set forth in this Office action:

(a) A patent may not be obtained though the invention is not identically disclosed or described as set forth in section 102 of this title, if the differences between the subject matter sought to be patented and the prior art are such that the subject matter as a whole would have been obvious at the time the invention was made to a person having ordinary skill in the art to which said subject matter pertains. Patentability shall not be negated by the manner in which the invention was made.

5. Claims 18 and 36 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vasseur (3309509) in view of Murata et al. (5361323).

Vasseur teaches a random number generation and verification circuit. He does not talk about a buffer storing numbers. In lines 16-18 of column 18, Murata et al. talk about outputting pseudo-random numbers that have been stored in a buffer. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to store the verified random numbers of Vasseur in a buffer as taught by Murata et al. This would provide a repository of values that could be used immediately as opposed to generating values, which takes time, as needed.

6. Claim 20 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vasseur (3309509) in view of Vasseur (4179663).

Vasseur (3309509) teaches a random number generation and verification circuit. He does not disclose in this patent using two random number generators. In Vasseur (4179663), a system using two sequence generators is taught. Figure 1 shows these two generators as elements 11 and 14. From line 46 of column 2 through line 24 of column 3, Vasseur (4179663) shows how these

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tandem generators can be used to minimize non-randomness. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use two sequence generators to produce random numbers and thereby increase the probabilities of the produced numbers being random.

7. Claims 19 and 35 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vasseur (3309509).

Vasseur teaches a random number generation and verification circuit. He does not say that the random number generator is an ANSI X9.17. Official notice is taken that ANSI X9.17 circuits are old and well-known. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the ANSI X9.17 circuit to generate the random numbers in Vasseur's invention *as this is the industry standard and would make the system more compatible.*

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8. Claims 21 and 37 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vasseur (3309509) in view of Murata et al. (5361323) as applied to claims 18 and 36 above.

Vasseur in view of Murata et al. teaches a random number generation and verification circuit which stores its outputs in a buffer. They do not say that the buffer uses a FIFO system. Official notice is taken that FIFO systems are old and well-known. A FIFO system would maintain the random nature of the numbers. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to implement a FIFO system in the output of numbers from the circuit of Vasseur in view of Murata et al, thus maintaining randomness.

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9. Claims 22, 38, and 42 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vasseur (3309509) in view of Murata et al. (5361323) as applied to claims 18 and 36 above.

Vasseur in view of Murata et al. teaches a random number generation and verification circuit which stores its outputs in a buffer. They do not disclose that the buffer outputs numbers at a lesser rate than it receives numbers, nor that the buffer can, for short periods of time, output numbers faster than it receives numbers. Official notice is taken that it is old and well-known that a data storage circuit must receive inputs at a rate greater than or equal to the rate of outputs. Otherwise, the circuit could be unable to output data fast enough. Official notice is also taken that it is old and well-known to allow for data output at a rate faster than data input for a short period of time. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to input values to the buffer at a rate such that the buffer would never run out of values to output. This would be accomplished by inputting values at a greater rate than they were output. It would also have been obvious to a person of ordinary skill in the art at the time the invention was made to allow the buffer to output values at a rate greater than values are input for short time periods, thereby allowing for faster operations over the short time period. Also, by outputting these values at an increased rate, memory space would be freed in the buffer.

10. Claim 29 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vasseur (3309509).

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Vasseur teaches a random number generation and verification circuit. He does not say that the verification circuits use an algorithm selected from the set of a Runs Test, a K-S test, a Chi-square test and a serial test. Official notice is taken that the Runs Test, K-S test, Chi-square test, and serial test are old and well-known as tests to check for randomness. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to employ one of the set of the Runs Test, K-S test, Chi-square test, and serial test to measure randomness. <sup>to increase compatibility</sup> As applicant has provided no reason for one or any of the tests being superior to the rest, the examiner sees no reason to explain why these tests are specifically obvious other than that they are old and well-known.

11. Claim 39 is rejected under 35 U.S.C. 103(a) as being unpatentable over Vasseur (3309509).

Vasseur teaches a random number generation and verification circuit. He does not display an encryption circuit between the random number generation circuit and the controller. Official notice is taken that encryption circuits can take otherwise non-random series and, through encryption, make the series random. Also, official notice is taken that encryption of values secures the values from illicit viewers. Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to encrypt the outputs of the random number generator to assure their randomness and to make them unreadable to an outside party.

12. Claims 31 and 40 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vasseur (3309509).

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Vasseur teaches a random number generation and verification circuit. He says nothing about using DES circuits to process the random numbers. Official notice is taken that DES circuits are old and well-known and can be used to randomize data and to secure data<sup>and is an approved government standard.</sup> Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use the DES to encrypt the outputs of the random number generator to assure their randomness and to make them unreadable to an outside party<sup>and use a government standard.</sup>

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7-5-99

13. Claims 32 and 41 are rejected under 35 U.S.C. 103(a) as being unpatentable over Vasseur as applied to claims 30 and 39 above.

Vasseur teaches a random number generation and verification circuit where the outputs of the random number generator are encrypted. He does not say that the encryption uses IDEA encryption. Official notice is taken that IDEA is old and well-known in the art of encryption<sup>and fast.</sup> Therefore it would have been obvious to a person of ordinary skill in the art at the time the invention was made to use IDEA, as a well-known algorithm, to encrypt data<sup>more quickly.</sup>

B  
7-5-99

### Conclusion

14. The prior art made of record and not relied upon is considered pertinent to applicant's disclosure. Maestas et al. (4977596), Padovani et al. (5659569), King et al. (5434560), Klug et al. (5528526), and Albert et al. (5627894).

Any inquiry concerning this communication or earlier communications from the examiner should be directed to Douglas Meislahn whose telephone number is (703) 305-1338. The



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examiner can normally be reached Monday-Thursday and every other Friday from 8:30 AM to 6:00 PM.

If attempts to reach the examiner by telephone are unsuccessful, the examiner's supervisor, Tod Swann, can be reached at (703) 308-7791.

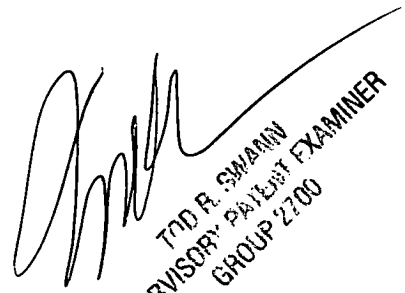
The fax number for Formal or Official faxes to Technology Center 2700 is (703) 308-9051 or 9052. Draft or Informal faxes for this Art Unit can be submitted to (703) 305-0040.

Any inquiry of a general nature or relating to the status of this application should be directed to the Group receptionist whose telephone number is (703) 305-3900.



DJM

June 28, 1999



TOD R. SWANN  
SUPERVISORY PATENT EXAMINER  
GROUP 2700

Section 2. Form PTO - 1449 (Modified)

<p>Form PTO-1449    U.S. Department of Commerce Patent and Trademark Office</p> <p>INFORMATION DISCLOSURE STATEMENT BY APPLICANT</p> <p>(Use several sheets if necessary)</p> <p>(37 CFR 1.98(b))</p>	<p>ATTY. DOCKET NO.</p> <p style="text-align: center;">1505/5a</p>	<p>SERIAL NO.</p> <p style="font-size: 2em; text-align: center;">08/959,575</p>
<p>APPLICANT</p> <p style="text-align: center;">Rolf E. Carlson</p>		
<p>FILING DATE</p> <p style="text-align: center;">Herewith</p>		<p>GROUP        3304</p>

**U.S. PATENT DOCUMENTS**

EXAMINER INITIAL		PATENT NUMBER	ISSUE DATE	PATENTEE	CLASS	SUBCLASS	FILING DATE IF APPROPRIATE
DJA	A	4   6   3   6   9   5   1	1/13/87	Harlick	364	412	
DJM	B	5   3   5   6   1   4   4	10/18/94	Fitzpatrick et al.	273	138	

**FOREIGN PATENT OR PUBLISHED FOREIGN PATENT APPLICATION**

		DOCUMENT NUMBER	PUBLICATION DATE	COUNTRY OR PATENT OFFICE	CLASS	SUBCLASS	TRANSLATIO N
							YES    NO

**OTHER DOCUMENTS (Including Author, Title, Date\*\*, Relevant Pages, Place of Publication\*\*\*)**


EXAMINER:	DATE CONSIDERED:
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FORM PTO-892		U.S. DEPARTMENT OF COMMERCE PATENT AND TRADEMARK OFFICE		SERIAL NO. <b>08959575</b>	GROUP ART UNIT <b>2767</b>	ATTACHMENT TO PAPER NO.	<b>5</b>
<b>NOTICE OF REFERENCES CITED</b>				APPLICANT(S)  <b>Carlson</b>			
<b>U.S. PATENT DOCUMENTS</b>							
*		DOCUMENT NO.	DATE	NAME	CLASS	SUB- CLASS	FILING DATE
	A	3,309,509	3/1967	Vasseur	380	46	5/1963
	B	4,179,663	12/1979	Vasseur	327	164	4/1969
	C	4,977,596	12/1990	Maestas et al.	380	48	3/1989
	D	5,361,323	11/1994	Murata et al.	704	201	11/1991
	E	5,434,560	7/1995	King et al.	340	578	5/1993
	F	5,528,526	6/1996	Klug et al.	708	212	9/1994
	G	5,659,569	8/1997	Padovani et al.	370	479	2/1994
	H						
	I						
	J						
	K						
<b>FOREIGN PATENT DOCUMENTS</b>							
*		DOCUMENT NO.	DATE	COUNTRY	NAME	CLASS	SUB- CLASS
	L						
	M						
	N						
	O						
	P						
	Q						
<b>OTHER REFERENCES (Including Author, Title, Date, Pertinent Pages, Etc.)</b>							
	R						
	S						
	T						
	U						
EXAMINER <b>Douglas Meislahn</b>			DATE <b>June 28, 1999</b>		Form892ccs2106b		
* A copy of this reference is not being furnished with this office action. (See Manual of Patent Examining Procedure, section 707.05(a).)							

959575

# NOTICE OF DRAFTERPERSON'S PATENT DRAWING REVIEW

The drawing filed (insert date) 10/28/97 are:

A. ✓ not objected to by the Drafterperson under 37 CFR 1.84 or 1.152.

B. ✓ objected to by the Drafterperson under 37 CFR 1.84 or 1.152 as indicated below. The Examiner will require submission of new, corrected drawings when necessary. Corrected drawings must be submitted according to the instructions on the back of this notice.

## 1. DRAWINGS. 37 CFR 1.84(a): Acceptable categories of drawings: Black ink. Color.

\_\_\_\_\_ Color drawing are not acceptable until petition is granted.

Fig.(s) \_\_\_\_\_

\_\_\_\_\_ Pencil and non black ink is not permitted. Fig.(s) \_\_\_\_\_

## 2. PHOTOGRAPHS. 37 CFR 1.84(b)

\_\_\_\_\_ Photographs are not acceptable until petition is granted,

\_\_\_\_\_ 3 full-tone sets are required. Fig.(s) \_\_\_\_\_

\_\_\_\_\_ Photographs not properly mounted (must bristol board or photographic double-weight paper). Fig.(s) \_\_\_\_\_

\_\_\_\_\_ Poor quality (half-tone). Fig.(s) \_\_\_\_\_

## 3. TYPE OF PAPER. 37 CFR 1.84(e)

\_\_\_\_\_ Paper not flexible, strong, white and durable.

Fig.(s) \_\_\_\_\_

\_\_\_\_\_ Erasures, alterations, overwritings, interlineations, folds, copy machine marks not acceptable. (too thin)

\_\_\_\_\_ Mylar, vellum paper is not acceptable (too thin).

Fig.(s) \_\_\_\_\_

## 4. SIZE OF PAPER. 37 CFR 1.84(F): Acceptable sizes:

\_\_\_\_\_ 21.0 cm by 29.7 cm (DIN size A4)

\_\_\_\_\_ 21.6 cm by 27.9 cm (8 1/2 x 11 inches)

\_\_\_\_\_ All drawings sheets not the same size.

Sheet(s) \_\_\_\_\_

## 5. MARGINS. 37 CFR 1.84(g): Acceptable margins:

Top 2.5 cm Left 2.5 cm Right 1.5 cm Bottom 1.0 cm  
SIZE: A4 Size

Top 2.5 cm Left 2.5 cm Right 1.5 cm Bottom 1.0 cm  
SIZE: 8 1/2 x 11

✓ Margins not acceptable. Fig.(s) 7

\_\_\_\_\_ Top (T) ✓ Left (L)

\_\_\_\_\_ Right (R) \_\_\_\_\_ Bottom (B)

## 6. VIEWS. CFR 1.84(h)

REMINDER: Specification may require revision to correspond to drawing changes.

\_\_\_\_\_ Views connected by projection lines or lead lines.

Fig.(s) \_\_\_\_\_

Partial views. 37 CFR 1.84(h)(2)

\_\_\_\_\_ Brackets needed to show figure as one entity.

Fig.(s) \_\_\_\_\_

\_\_\_\_\_ Views not labeled separately or properly.

Fig.(s) \_\_\_\_\_

\_\_\_\_\_ Enlarged view not labeled separately or properly.

Fig.(s) \_\_\_\_\_

## 7. SECTIONAL VIEWS. 37 CFR 1.84(h)(3)

\_\_\_\_\_ Hatching not indicated for sectional portions of an object.

Fig.(s) \_\_\_\_\_

\_\_\_\_\_ Sectional designation should be noted with Arabic or

Roman numbers. Fig.(s) \_\_\_\_\_

## 8. ARRANGEMENT OF VIEWS. 37 CFR 1.84(i)

\_\_\_\_\_ Words do not appear on a horizontal, left-to-right fashion when page is either upright or turned, so that the top becomes the right side, except for graphs. Fig.(s) \_\_\_\_\_

\_\_\_\_\_ Views not on the same plane on drawing sheet. Fig.(s) \_\_\_\_\_

## 9. SCALE. 37 CFR 1.84(k)

\_\_\_\_\_ Scale not large enough to show mechanism with crowding when drawing is reduced in size to two-thirds in reproduction.

Fig.(s) \_\_\_\_\_

## 10. CHARACTER OF LINES, NUMBERS, & LETTERS. 37 CFR 1.84(l)

\_\_\_\_\_ Lines, numbers & letters not uniformly thick and well defined, clean, durable and black (poor line quality).

Fig.(s) \_\_\_\_\_

## 11. SHADING. 37 CFR 1.84(m)

\_\_\_\_\_ Solid black areas pale. Fig.(s) \_\_\_\_\_

\_\_\_\_\_ Solid black shading not permitted. Fig.(s) \_\_\_\_\_

\_\_\_\_\_ Shade lines, pale, rough and blurred. Fig.(s) \_\_\_\_\_

## 12. NUMBERS, LETTERS, & REFERENCE CHARACTERS. 37 CFR 1.48(p)

\_\_\_\_\_ Numbers and reference characters not plain and legible.

Fig.(s) \_\_\_\_\_

\_\_\_\_\_ Figure legends are poor. Fig.(s) \_\_\_\_\_

\_\_\_\_\_ Numbers and reference characters not oriented in the same direction as the view. 37 CFR 1.84(p)(3) Fig.(s) \_\_\_\_\_

\_\_\_\_\_ English alphabet not used. 37 CFR 1.84(p)(3) Fig.(s) \_\_\_\_\_

\_\_\_\_\_ Numbers, letters and reference characters must be at least .32 cm (1/8 inch) in height. 37 CFR 1.84(p)(3) Fig.(s) \_\_\_\_\_

## 13. LEAD LINES. 37 CFR 1.84(q)

\_\_\_\_\_ Lead lines cross each other. Fig.(s) \_\_\_\_\_

\_\_\_\_\_ Lead lines missing. Fig.(s) \_\_\_\_\_

## 14. NUMBERING OF SHEETS OF DRAWINGS. 37 CFR 1.48(i)

\_\_\_\_\_ Sheets not numbered consecutively, and in Arabic numerals beginning with number 1. Fig.(s) \_\_\_\_\_

## 15. NUMBERING OF VIEWS. 37 CFR 1.84(u)

\_\_\_\_\_ Views not numbered consecutively, and in Arabic numerals, beginning with number 1. Fig.(s) \_\_\_\_\_

## 16. CORRECTIONS. 37 CFR 1.84(w)

\_\_\_\_\_ Corrections not made from PTO-948 dated \_\_\_\_\_

## 17. DESIGN DRAWINGS. 37 CFR 1.152

\_\_\_\_\_ Surface shading shown not appropriate. Fig.(s) \_\_\_\_\_

\_\_\_\_\_ Solid black shading not used for color contrast.

Fig.(s) \_\_\_\_\_

COMMENTS

REVIEWER

T. Lopez

DATE

2/21/98

TELEPHONE NO.

308 9486

ATTACHMENT TO PAPER NO. \_\_\_\_\_